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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/552,180 | 04/18/2000 | Gary Greenberg | GB0002 | 2294 |

7590 03/18/2004
H Michael Brucker
5855 Doyle Street
Suite 110
Emeryville, CA 94608

EXAMINER

NGUYEN, THONG Q

ART UNIT PAPER NUMBER

2872

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/552,180

Applicant(s)

GREENBERG, GARY

Examiner

Thong Q. Nguyen

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2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 20,21 and 39-41 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 42-50 is/are allowed.
- 6) ☐ Claim(s) 1-19, 22-37 is/are rejected.
- 7) ☐ Claim(s) 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The present Office action is made in response to the amendment filed on 12/02/2003.

Drawings

2. The drawings contained corrections to figures 1, 1a, 5a, 6 and 24 were received on 12/02/2003. These drawings are approved by the Examiner.

Specification

3. The lengthy specification which is amended by the amendment has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 7 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Piller et al (U.S. Patent No. 4,407,569, of record).

Piller et al discloses a contrast microscope having a transmitting illumination. The section of the microscope as described in columns 2-3 and shown in figures 1-3 comprises a condenser lens system (4) and an objective lens system (3) each provides an objective aperture. A slide (12) supporting a plurality of diaphragms (8, 9, 10) which is able to select to insert into the objective aperture of the

condenser system. The diaphragm (10) comprises a region (10b) having a shape of a sector of a phase annulus and mounted in a ring (10a) which is rotatable within the slide (12). In column 3, lines 30+, Piller et al disclose that the diaphragm (10) is rotatable to provide a three-dimensional image of the sample (O) to an observer. As a result, it is clearly that an observer is able to continuously rotate the diaphragm for viewing a 3-D image of the object. While Piller et al do not clearly show a light source or an illuminating light path; however, a microscope with a transmitting illumination is inherently comprises a light source disposed in front of a condenser lens system for providing an illuminating to an object via the condenser lens system.

6. Claims 7 and 13-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Greenberg (U.S. Patent No. 5,706,128, of record).

Greenberg discloses a contrast microscope having a transmitting illumination. The system as described in columns 4-6 and shown in figures 1-3 comprises a condenser lens system (21) having lens elements and an objective aperture. A carrier (27) supporting a plurality of aperture masks having different configurations in dimension and/or shape wherein any mask is able to select to insert into the illuminating light path at the objective aperture position of the condenser lens system. The carrier is rotatable about a rotational axis (28) which is oriented in a parallel direction with the optical axis of the condenser lens system, thus any mask which is not in the illuminating path is located off-axis with respect to the illuminating light path. Regarding to the feature "dynamic aperture

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mask" recited in the claims, it is noted that such feature is readable from the aperture masks disposed in the rotatable disk (27) provided by Greenberg because the disk when continuously rotates about the rotational axis will change the size and amount of light passing through a particular portion of the objective aperture as well as will change the position/area of the objective aperture where the bundle of light passes.

7. Claims 7, 10-11, and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Baur Schmidt (Germany reference No. 34 09 657, of record).

Baur Schmidt discloses a contrast microscope having a transmitting illumination. The system as described in pages 7-9 and shown in figures 1-2 comprises an objective lens system (1) having lens elements and an objective aperture. A carrier (13) supporting a plurality of aperture masks in the form of overlapping opaque discs wherein a rotation of the masks will define an aperture whose shape is variable. The carrier is rotatable about a rotational axis (28) which is oriented in an off-axis direction with the optical axis of the objective lens system, thus any mask which is not in the illuminating path is located off-axis with respect to the illuminating light path. Regarding to the feature "dynamic aperture mask" recited in the claims, it is noted that such feature is readable from the aperture masks disposed in the rotatable disk (27) provided by Baur Schmidt because the disk when continuously rotates about the rotational axis will change the size and amount of light passing through a particular portion of the objective aperture as

well as will change the position/area of the objective aperture where the bundle of light passes.

8. Claims 1-8 and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kley (U.S. Patent No. 4,561,731).

Kley discloses a light controlling system for use with a microscope. The light controlling system comprises a set of liquid crystal cells operated and controlled by a circuitry system so that the size of light will depend upon the number of cells opening/being transmittance by the inputs from the circuitry. The opening of the cells can be a sector-shaped configuration for permitting light passing therethrough. See column 25 and figure 27. Regarding to the position of the liquid crystal cells inside the microscope, Kley discloses that the device can be located in an objective aperture of a condenser lens or that (P1) of an objective lens or in a position of the viewing path. See figure 14

Claim Rejections - 35 USC § 103

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baurschmidt.

The aperture masks provided by Baurschmidt does not have a structure of an expandable bellows as recited in present claim 9; however, such a structure is not critical to the invention because applicant has admitted and discloses a plurality of embodiments relating to the structure of the masks including a

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structure of two overlapping discs. See present claim 11, for example. Thus, absent any showing of criticality, it would have been obvious to one skilled in the art at the time the invention was made to utilize any kind of stop or diaphragm with an operating mechanism including bellows or overlapping discs, etc., for the purpose of varying the aperture of the iris or the diaphragm.

11. Claims 22-24 and 26-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kley (U.S. Patent No. 4,561,731, of record).

Kley discloses a light controlling system for use with a microscope. The light controlling system comprises a set of liquid crystal cells operated and controlled by a circuitry system so that the size of light will depend upon the number of cells opening/being transmittance by the inputs from the circuitry. The opening of the cells can be a sector-shaped configuration for permitting light passing therethrough. See column 25 and figure 27. Regarding to the position of the liquid crystal cells inside the microscope, Kley discloses that the device can be located in an objective aperture of a condenser lens or that (P1) of an objective lens or in a position of the viewing path. See figure 14. While the continuously operation of the cells or the sectors for changing the illuminating pattern or viewing pattern and thus as a result a change in viewing of the object in 3-D is suggested by Kley image of an object; he does not clearly set forth a step of steps for changing the illuminating pattern or viewing pattern; however, it would have been obvious to one skilled in the art at the time the invention was made to utilize the system provided by Kley and set forth a set of steps including the step

of providing a light source system, a step of providing a light control element in the form of liquid crystal cells operated by an electrical control system and the step of changing the pattern of the cells by activating the electrical control system for the purpose of varying the illuminating/viewing pattern.

12. Claims 22-23, 25-27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujihara et al (U.S. Patent No. 4,852,985) in view of Kley (U.S. Patent No. 4,561,731) (both of record).

Fujihara et al disclose a contrast microscope having a transmitting illumination. The system as described in column 4 and shown in figure 6 comprises a condenser lens system (6) having lens elements and an objective aperture (5). A set of LEDs (2) disposed in the vicinity of the aperture wherein the amount of the LEDs to be used in a particular illuminating pattern is made and controlled by a control circuit ©. The only feature missing from the art of Fujihara et al is that they do not clearly disclose that the light pattern is able to continuously change for the purpose of providing a 3 dimensional view of the object; however, the use of an illuminating system having light source and a means for controlling the light illuminating pattern is suggested to one skilled in the art as can be seen in the system provided by Kley. In particular, Kley discloses a light controlling system for use with a microscope. The light controlling system comprises a set of liquid crystal cells operated and controlled by a circuitry system so that the size of light will depend upon the number of cells opening/being transmittance by the inputs from the circuitry. The continuously operation of the cells or the sectors for

changing the illuminating pattern or viewing pattern and thus as a result a change in viewing of the object in 3-D is suggested by Kley image of an object. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the system provided by Fujihara et al y continuously changing the illuminating pattern as suggested by Kley for the purpose of providing a 3-D viewing of the object. Regarding to a step of steps for changing the illuminating pattern or viewing pattern, it would have been obvious to one skilled in the art at the time the invention was made to utilize the combined product provided by Fujihara et al and Kley by setting forth a set of steps including the step of providing a light source system, a step of providing a light control element in the form of liquid crystal cells operated by an electrical control system and the step of changing the pattern of the of LEDs for the purpose of varying/changing the illuminating pattern so that a 3-dimensional aspect of the image is obtained.

Allowable Subject Matter

13. Claims 42-50 are allowed the cited art.
14. Claim 38 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

15. Applicant's arguments filed on 12/02/2003 have been fully considered but they are not persuasive.

A) Regarding to the rejection of claims 7 and its dependent claims, applicant has argued that the claims are amended to overcome the art rejection; however, the claims, in particular, claim 7, has not been amended as stated by the applicant. It is noted that applicant has amended the specification to define the so-called "dynamic aperture mask"; however, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

B) Regarding to the other rejections to the claims, Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

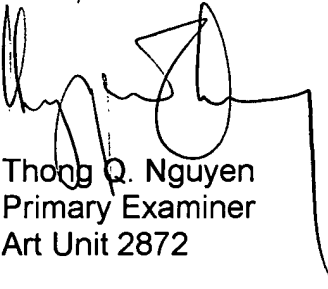
Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (571) 272-2316. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q. Nguyen
Primary Examiner
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